

# **NOISE MAPPING AND ACTION PLANNING – THE EUROPEAN APPROACH TO REDUCE ENVIRONMENTAL NOISE**

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Numerous European city noise mapping projects are in progress or even have been finalised to comply with the requirements established in the European directive 2002/49/EC on Environmental Noise. These noise maps are used as planning tools to develop effective noise reduction measures. The basic problem is that noise is only one – and in many cases not the most important – hazard that influences the decision about the success of such an approach. Air pollution, mobility and an unrestricted flow of goods on the roads are also aspects that have to be taken into account. Basis of a successful approach is a ranking of alternatives. It is shown how these problems are tackled in the frame of the European project QCity and examples are presented.

## **Comprehensive Comparison of EUB Directive 038-2007 to Other Energy-Industry Noise Standards**

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The Alberta Energy and Utilities Board (EUB) has issued one of the most comprehensive noise limit criteria in Directive 038, largely concerning the extensive oil and gas industry in Alberta. Along with the sound level criteria, addressed are the environmental surveying conditions, complaint investigation process and sound level prediction methodology. Several other jurisdictions have set criteria to limit the noise from oil- and gas-related operations, including the Colorado Oil and Gas Conservation Commission (COGCC), which recently voted to repeal their provision of a more stringent noise level criterion. Most of the criteria do not include limits on low-frequency noise unless such specific complaints have been made. Many regulations also give simplified criteria outlining A-weighted level limits at set distances from the source. Having a comprehensive set of criteria (such as in the EUB guidelines) gives the energy industry a more useful tool to proactively include noise mitigation in their environmental impact assessments. This paper will compare the noise limit criteria of several different jurisdictions including permissible sound levels, meteorological conditions, prediction modeling parameters and assumptions, measurement protocols, reporting requirements and enforcement.

# **CONSIDERATIONS FOR NOISE ASSOCIATED WITH COAL BED METHANE DEVELOPMENT**

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Development of coal bed methane (CBM) is a growing industry in Alberta and with this growth comes a number of public concerns such as groundwater impacts, drilling well density within the province, proliferation of production facilities, and other land-use issues like environmental noise. This paper will review the effect CBM development has had in the United States and on public perception of this activity in Alberta especially as it relates to CBM compressor station noise. It will also outline how the EUB is addressing CBM noise concerns through existing requirements featured in Directive 038. The authors will conclude with a discussion on the challenges facing the EUB to manage and regulate noise as CMB development continues to grow, and resulting changes this could have on future regulations.

## **REGULATORY CONTROL OF HEAVY VEHICLE COMPRESSION BRAKES IN AUSTRALIA – THE NOISE CAMERA AND AUDIBILITY TESTS**

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The problem of noise from heavy vehicle engine compression brakes in Australia is defined. The current regulatory schemes are discussed with their shortcomings and how these schemes operate both nationally and between each State.

The National Transport Commission developed proposals for two new regulatory approaches, which are examined. One is for the imposition of a new national standard to set overall limits on noise and the other addresses the problem of audibility in urban areas.

A key part to this regulatory development is enforceability. The National Standard approach requires a strategy for on road detection of non compliance and this is addressed by the invention of the “noise camera”. The acoustics of the camera is described including the development of the roadside test procedure, the noise camera’s role in the imposition of legal fines and penalties, and current status.

The proposed national noise limit is set high to target the worst offenders that make the most contribution to impact levels but this does not address audibility issues in urban areas. The second regulatory approach considers imposing bans on the use of audible engine compression brakes for designated sections of road. The implications of this approach are examined including the difficulties in dealing with associated safety issues to the satisfaction of government.

Projections on future implementation and its effects on noise levels is also examined including the ongoing costs and benefits to industry and the community.